

**WEST**[Help](#)[Logout](#)[Interrupt](#)[Main Menu](#)[Search Form](#)[Posting Counts](#)[Show S Numbers](#)[Edit S Numbers](#)[Preferences](#)[Cases](#)**Search Results -**

Terms	Documents
L23 and (Phe-730 or Phe 730)	0

**Database:**

US Patents Full-Text Database	▲
US Pre-Grant Publication Full-Text Database	
JPO Abstracts Database	
EPO Abstracts Database	
Derwent World Patents Index	
IBM Technical Disclosure Bulletins	▼

**Search:**

L25

[Refine Search](#)[Recall Text](#)[Clear](#)**Search History**

**DATE:** Tuesday, April 08, 2003   [Printable Copy](#)   [Create Case](#)

**Set Name Query**  
side by side

**Hit Count Set Name**  
result set

*DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ*

<u>L25</u>	L23 and (Phe-730 or Phe 730)	0	<u>L25</u>
<u>L24</u>	L23 same 730	2	<u>L24</u>
<u>L23</u>	L3 same maritima	54	<u>L23</u>
<u>L22</u>	L21 and 438	1	<u>L22</u>
<u>L21</u>	L3 and mycobacteriophage	7	<u>L21</u>
<u>L20</u>	L13 and 747	11	<u>L20</u>
<u>L19</u>	L18 and 711	0	<u>L19</u>
<u>L18</u>	L16 and phenylalanine	7	<u>L18</u>
<u>L17</u>	L16 and (Phe 711 or phe711 or phe-711)	0	<u>L17</u>
<u>L16</u>	L3 same caldotenax	11	<u>L16</u>
<u>L15</u>	L3 and caldotenax	46	<u>L15</u>
<u>L14</u>	L13 and (Phe747 or Phe-747)	0	<u>L14</u>
<u>L13</u>	L3 and radiodurans	29	<u>L13</u>
<u>L12</u>	L3 same radiodurans	3	<u>L12</u>
<u>L11</u>	L7 and non-discriminating	2	<u>L11</u>
<u>L10</u>	L7 same non-discriminating	0	<u>L10</u>
<u>L9</u>	L7 same phenylalanine	1	<u>L9</u>
<u>L8</u>	L7 same (Phe669 or Phe-669 or F-669 or F669)	0	<u>L8</u>
<u>L7</u>	L3 same thermophilus	63	<u>L7</u>
<u>L6</u>	L4 and (Phe762 or Phe-762)	1	<u>L6</u>
<u>L5</u>	L4 same (Phe762 or Phe-762)	0	<u>L5</u>
<u>L4</u>	L3 same Klenow	605	<u>L4</u>
<u>L3</u>	L1 same (mutant or variant)	2298	<u>L3</u>
<u>L2</u>	L1 same (mutant or variant)	2298	<u>L2</u>
<u>L1</u>	DNA polymerase	24470	<u>L1</u>

END OF SEARCH HISTORY

**WEST**[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 29 of 29 returned.**☐ 1. Document ID: US 20030064376 A1

L13: Entry 1 of 29

File: PGPB

Apr 3, 2003

PGPUB-DOCUMENT-NUMBER: 20030064376

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030064376 A1

TITLE: Genome walking by selective amplification of nick-translate DNA library and amplification from complex mixtures of templates

PUBLICATION-DATE: April 3, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Makarov, Vladimir L.	Ann Arbor	MI	US	
Kamberov, Emmanuel	Ann Arbor	MI	US	
Sleptsova, Irina	Ann Arbor	MI	US	

US-CL-CURRENT: 435/6; 435/91.2

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">Claims</a>	<a href="#">KIMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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☐ 2. Document ID: US 20030040620 A1

L13: Entry 2 of 29

File: PGPB

Feb 27, 2003

PGPUB-DOCUMENT-NUMBER: 20030040620

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030040620 A1

TITLE: Method of producing a DNA library using positional amplification

PUBLICATION-DATE: February 27, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Langmore, John P.	Ann Arbor	MI	US	
Makarov, Vladimir L.	Ann Arbor	MI	US	

US-CL-CURRENT: 536/24.3; 435/91.2

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">Claims</a>	<a href="#">KIMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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☐ 3. Document ID: US 20030027296 A1

L13: Entry 3 of 29

File: PGPB

Feb 6, 2003

PGPUB-DOCUMENT-NUMBER: 20030027296  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030027296 A1

TITLE: CLONED DNA POLYMERASES FROM THERMOTOGA MARITIMA AND MUTANTS THEREOF

PUBLICATION-DATE: February 6, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
CHATTERJEE, DEB K.	N POTOMAC	MD	US	

US-CL-CURRENT: 435/183; 435/320.1, 435/325, 435/6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw Desc	Image
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☐ 4. Document ID: US 20020197605 A1

L13: Entry 4 of 29

File: PGPB

Dec 26, 2002

PGPUB-DOCUMENT-NUMBER: 20020197605  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20020197605 A1

TITLE: Novel Polynucleotides

PUBLICATION-DATE: December 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Nakagawa, Satoshi	Tokyo		JP	
Mizoguchi, Hiroshi	Tokyo		JP	
Ando, Seiko	Tokyo		JP	
Hayashi, Mikiro	Tokyo		JP	
Ochiai, Keiko	Tokyo		JP	
Yokoi, Haruhiko	Tokyo		JP	
Tateishi, Naoko	Tokyo		JP	
Senoh, Akihiro	Tokyo		JP	
Ikeda, Masato	Tokyo		JP	
Ozaki, Akio	Hofu-shi		JP	

US-CL-CURRENT: 435/6; 435/287.2, 435/91.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw Desc	Image
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☐ 5. Document ID: US 20020182672 A1

L13: Entry 5 of 29

File: PGPB

Dec 5, 2002

PGPUB-DOCUMENT-NUMBER: 20020182672  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20020182672 A1

TITLE: Enhanced secretion of a polypeptide by a microorganism

PUBLICATION-DATE: December 5, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kolkman, Marc	Oegstgeest		NL	

US-CL-CURRENT: 435/69.1; 435/252.3, 435/252.31

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 6. Document ID: US 20020168646 A1

L13: Entry 6 of 29

File: PGPB

Nov 14, 2002

PGPUB-DOCUMENT-NUMBER: 20020168646

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020168646 A1

TITLE: Polymerases for analyzing or typing polymorphic nucleic acid fragments and uses thereof

PUBLICATION-DATE: November 14, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Solus, Joseph	Gaithersburg	MD	US	
Yang, Shuwei	Rockville	MD	US	
Chatterjee, Deb K.	North Potomac	MD	US	

US-CL-CURRENT: 435/6; 435/91.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 7. Document ID: US 20020119461 A1

L13: Entry 7 of 29

File: PGPB

Aug 29, 2002

PGPUB-DOCUMENT-NUMBER: 20020119461

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020119461 A1

TITLE: High fidelity polymerases and uses thereof

PUBLICATION-DATE: August 29, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Chatterjee, Deb K.	North Potomac	MD	US	

US-CL-CURRENT: 435/6; 435/199, 435/91.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 8. Document ID: US 20020042059 A1

L13: Entry 8 of 29

File: PGPB

Apr 11, 2002

PGPUB-DOCUMENT-NUMBER: 20020042059  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20020042059 A1

TITLE: Compositions and methods for analysis of nucleic acids

PUBLICATION-DATE: April 11, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Makarov, Vladimir L.	Ann Arbor	MI	US	
Langmore, John P.	Ann Arbor	MI	US	

US-CL-CURRENT: 435/6; 435/91.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 9. Document ID: US 20020042055 A1

L13: Entry 9 of 29

File: PGPB

Apr 11, 2002

PGPUB-DOCUMENT-NUMBER: 20020042055  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20020042055 A1

TITLE: Alteration of hydrolase genes and screening of the resulting libraries for the ability to catalyze specific reactions

PUBLICATION-DATE: April 11, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Affholter, Joseph A.	Zephyr Cove	NV	US	

US-CL-CURRENT: 435/6; 435/7.1, 435/91.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 10. Document ID: US 20020037834 A1

L13: Entry 10 of 29

File: PGPB

Mar 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020037834  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20020037834 A1

TITLE: Compositions and methods for enhanced sensitivity and specificity of nucleic acid synthesis

PUBLICATION-DATE: March 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Astatke, Mekbib	Germantown	MD	US	
Gebeyehu, Gulilat	Potomac	MD	US	

US-CL-CURRENT: 514/2; 514/59

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 11. Document ID: US 20020007051 A1

L13: Entry 11 of 29

File: PGPB

Jan 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020007051

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020007051 A1

TITLE: Use of multiple recombination sites with unique specificity in recombinational cloning

PUBLICATION-DATE: January 17, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Cheo, David	Kensington	MD	US	
Brasch, Michael A.	Gaithersburg	MD	US	
Temple, Gary F.	Washington Grove	MD	US	
Hartley, James L.	Frederick	MD	US	
Byrd, Devon R. N.	Montgomery Village	MD	US	

US-CL-CURRENT: 536/23.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 12. Document ID: US 6537757 B1

L13: Entry 12 of 29

File: USPT

Mar 25, 2003

US-PAT-NO: 6537757

DOCUMENT-IDENTIFIER: US 6537757 B1

TITLE: Nucleic acid sequencing and mapping

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 13. Document ID: US 6518013 B1

L13: Entry 13 of 29

File: USPT

Feb 11, 2003

US-PAT-NO: 6518013

DOCUMENT-IDENTIFIER: US 6518013 B1

TITLE: Methods for the inhibition of epstein-barr virus transmission employing anti-viral peptides capable of abrogating viral fusion and transmission

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------

KWIC	Draw Desc	Image
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☐ 14. Document ID: US 6506560 B1

L13: Entry 14 of 29

File: USPT

Jan 14, 2003

US-PAT-NO: 6506560

DOCUMENT-IDENTIFIER: US 6506560 B1

TITLE: Cloned DNA polymerases from Thermotoga and mutants thereof

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 15. Document ID: US 6492161 B1

L13: Entry 15 of 29

File: USPT

Dec 10, 2002

US-PAT-NO: 6492161

DOCUMENT-IDENTIFIER: US 6492161 B1

TITLE: Bacteriophage RM 378 of a thermophilic host organism

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 16. Document ID: US 6479055 B1

L13: Entry 16 of 29

File: USPT

Nov 12, 2002

US-PAT-NO: 6479055

DOCUMENT-IDENTIFIER: US 6479055 B1

TITLE: Methods for inhibition of membrane fusion-associated events, including respiratory syncytial virus transmission

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 17. Document ID: US 6306588 B1

L13: Entry 17 of 29

File: USPT

Oct 23, 2001

US-PAT-NO: 6306588

DOCUMENT-IDENTIFIER: US 6306588 B1

TITLE: Polymerases for analyzing or typing polymorphic nucleic acid fragments and uses thereof

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 18. Document ID: US 6228983 B1

L13: Entry 18 of 29

File: USPT

May 8, 2001

US-PAT-NO: 6228983

DOCUMENT-IDENTIFIER: US 6228983 B1

TITLE: Human respiratory syncytial virus peptides with antifusogenic and antiviral activities



Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 19. Document ID: US 6197557 B1

L13: Entry 19 of 29

File: USPT

Mar 6, 2001

US-PAT-NO: 6197557

DOCUMENT-IDENTIFIER: US 6197557 B1

TITLE: Compositions and methods for analysis of nucleic acids

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 20. Document ID: US 6117634 A

L13: Entry 20 of 29

File: USPT

Sep 12, 2000

US-PAT-NO: 6117634

DOCUMENT-IDENTIFIER: US 6117634 A

TITLE: Nucleic acid sequencing and mapping

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 21. Document ID: US 6093794 A

L13: Entry 21 of 29

File: USPT

Jul 25, 2000

US-PAT-NO: 6093794

DOCUMENT-IDENTIFIER: US 6093794 A

TITLE: Isolated peptides derived from the Epstein-Barr virus containing fusion inhibitory domains

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 22. Document ID: US 6068973 A

L13: Entry 22 of 29

File: USPT

May 30, 2000

US-PAT-NO: 6068973

DOCUMENT-IDENTIFIER: US 6068973 A

TITLE: Methods for inhibition of membrane fusion-associated events, including influenza virus

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 23. Document ID: US 6060065 A

L13: Entry 23 of 29

File: USPT

May 9, 2000

US-PAT-NO: 6060065  
DOCUMENT-IDENTIFIER: US 6060065 A

TITLE: Compositions for inhibition of membrane fusion-associated events, including influenza virus transmission

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KMOC	Draw Desc	Image
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☐ 24. Document ID: US 6054265 A

L13: Entry 24 of 29

File: USPT

Apr 25, 2000

US-PAT-NO: 6054265  
DOCUMENT-IDENTIFIER: US 6054265 A

TITLE: Screening assays for compounds that inhibit membrane fusion-associated events

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KMOC	Draw Desc	Image
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☐ 25. Document ID: US 6017536 A

L13: Entry 25 of 29

File: USPT

Jan 25, 2000

US-PAT-NO: 6017536  
DOCUMENT-IDENTIFIER: US 6017536 A

TITLE: Simian immunodeficiency virus peptides with antifusogenic and antiviral activities

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KMOC	Draw Desc	Image
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☐ 26. Document ID: US 6015668 A

L13: Entry 26 of 29

File: USPT

Jan 18, 2000

US-PAT-NO: 6015668  
DOCUMENT-IDENTIFIER: US 6015668 A

TITLE: Cloned DNA polymerases from thermotoga and mutants thereof

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KMOC	Draw Desc	Image
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☐ 27. Document ID: US 6013263 A

L13: Entry 27 of 29

File: USPT

Jan 11, 2000

US-PAT-NO: 6013263  
DOCUMENT-IDENTIFIER: US 6013263 A

TITLE: Measles virus peptides with antifusogenic and antiviral activities

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KMOC	Draw Desc	Image
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☐ 28. Document ID: US 5948614 A

L13: Entry 28 of 29

File: USPT

Sep 7, 1999

US-PAT-NO: 5948614

DOCUMENT-IDENTIFIER: US 5948614 A

TITLE: Cloned DNA polymerases from thermotoga maritima and mutants thereof

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 29. Document ID: US 5776673 A

L13: Entry 29 of 29

File: USPT

Jul 7, 1998

US-PAT-NO: 5776673

DOCUMENT-IDENTIFIER: US 5776673 A

TITLE: Treatment and detection of tuberculosis, leprosy, and related diseases

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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Terms	Documents
L3 and radiodurans	29

**Display Format:**

-

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L1

1560 FILE WPINDEX  
QUE (DNA POLYMERASE)  
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FILE 'EMBASE, USPATFULL, MEDLINE, CAPLUS, BIOSIS, SCISEARCH, BIOTECHNO,  
TOXCENTER' ENTERED AT 11:57:11 ON 08 APR 2003

L2 13446 S L1 AND KLENOW  
L3 32871 S L1 AND (MUTANT OR VARIANT)  
L4 7744 S L3 AND KLENOW  
L5 8 S L4 AND PHE762  
L6 2 DUP REM L5 (6 DUPLICATES REMOVED)  
L7 415 S L3 AND (THERMUS THERMOPHILUS)  
L8 336 S L7 AND (PHE OR PHENYLALANINE OR F)  
L9 336 DUP REM L8 (0 DUPLICATES REMOVED)  
L10 1 S L7 AND (PHE570)  
L11 75 S L3 AND (DEINOCOCCUS RADIODURANS)  
L12 50 DUP REM L11 (25 DUPLICATES REMOVED)  
L13 0 S L12 AND PHE747  
L14 0 S L12 AND (F747 OR PHENYLALANINE747 OR PHE-747 OR PHENYLALANINE  
L15 0 S L7 AND (PHE669 OR PHE-669 OR F669 OR F-669 OR PHENYLALANINE-  
L16 61 S L3 AND CALDOTENAX  
L17 10 S L16 AND 711  
L18 10 DUP REM L17 (0 DUPLICATES REMOVED)  
L19 23 S L3 AND (MYCOBACTERIOPHAGE)  
L20 0 S L19 AND (PHE 438)  
L21 0 S L19 AND (F-438 OR F438 OR PHENYLALANINE-438 OR PHENYLALANINE  
L22 3 S L19 AND 438  
L23 3 DUP REM L22 (0 DUPLICATES REMOVED)  
L24 6 S L19 AND PHENYLALANINE  
L25 6 DUP REM L24 (0 DUPLICATES REMOVED)  
L26 189 S L3 AND MARITIMA  
L27 65 S L26 AND PHENYLALANINE  
L28 0 S L27 AND (PHE 730 OR PHE-730 OR PHENYLALANINE-730)

=> log Y

---

For T. Maritima - Dbl Pat : claim 5.

See- US 6015668

Also US 5948614 Claim 5

Prepub- 20030027296.

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For B. caldotenax

633159  
6316202

## WEST

## End of Result Set



Generate Collection

Print

L9: Entry 1 of 1

File: USPT

Jul 7, 1998

DOCUMENT-IDENTIFIER: US 5776673 A

TITLE: Treatment and detection of tuberculosis, leprosy, and related diseases

Detailed Description Paragraph Table (2):

## TABLE II

Summary of Ribose Selectivity Residue in Pol I-Type DNA Polymerases Polymerase  
Residue dNMP/ddNMP Incorporation Rate

Escherichia coli Phenylalanine 600 (0.6 for Phenylalanine .fwdarw. Tyrosine Mutant)  
Thermus aquaticus Phenylalanine 3,000 (0.5 for Phenylalanine .fwdarw. Tyrosine  
Mutant) Thermus thermophilus Phenylalanine >1,000 Thermus flavus Phenylalanine  
Deinococcus radiodurans Phenylalanine Streptococcus pneumoniae Phenylalanine  
Bacillus caldotenax Phenylalanine Mycobacteriophage L5 Phenylalanine Bacteriophage  
T5 Phenylalanine Bacteriophage SP01 Phenylalanine Bacteriophage SP02 Leucine  
Bacteriophage T7 Tyrosine 3 (8,000 for Tyrosine .fwdarw. Phenylalanine Mutant)  
Mitochondria Tyrosine <10 Mycobacterium tuberculosis Tyrosine Mycobacterium leprae  
Tyrosine

**WEST**[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 1 of 1 returned.**☐ 1. Document ID: US 5776673 A

L9: Entry 1 of 1

File: USPT

Jul 7, 1998

US-PAT-NO: 5776673

DOCUMENT-IDENTIFIER: US 5776673 A

TITLE: Treatment and detection of tuberculosis, leprosy, and related diseases

Full	Title	CLS.1	REF.1	SEQ.1	ATT.1

[Generate Collection](#)[Print](#)

Terms	Documents
L7 same phenylalanine	1

**Display Format:**

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[Change Format](#)[Previous Page](#)[Next Page](#)

**WEST**[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 1 of 1 returned.**☐ 1. Document ID: US 5614365 A

L6: Entry 1 of 1

File: USPT

Mar 25, 1997

US-PAT-NO: 5614365

DOCUMENT-IDENTIFIER: US 5614365 A

TITLE: DNA polymerase having modified nucleotide binding site for DNA sequencing

Full	Title
	CLS.1 REF.1 SEQ.1 ATT.1

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Terms	Documents
L4 and (Phe762 or Phe-762)	1

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L6: Entry 1 of 1

File: USPT

Mar 25, 1997

DOCUMENT-IDENTIFIER: US 5614365 A

TITLE: DNA polymerase having modified nucleotide binding site for DNA sequencing

Detailed Description Text (55):

E. coli DNA polymerase I with altered Phe762 (altered means replaced with e.g., Tyr, or an equivalent amino acid to give the non-discriminatory property).

Detailed Description Text (69):

Standard techniques are used for the cloning and expression of mutant DNA polymerase genes. The genes for the large fragment of E. coli DNA polymerase I (Klenow fragment) and the large fragment of Taq DNA polymerase (KlenTaq or .DELTA.Taq DNA polymerase, see Barnes 112 Gene 29, 1992 or Stoffel fragment, see Lawyer et al. 2 PCR Methods Appl 275, 1993), the starting materials for the generation of mutants in E. coli DNA polymerase I and Taq DNA polymerase, are expressed under the control of the T7 RNA polymerase promoter. The gene for the .DELTA.28 amino acid deletion of T7 DNA polymerase (see Tabor and Richardson 264, J. Biol. Chem. 6447, 1989), the starting material for the generation of mutants in T7 DNA polymerase, is expressed under the control of the lac promoter in a strain that produces E. coli thioredoxin, a necessary factor for processive DNA synthesis by T7 DNA polymerase (Tabor and Richardson, supra). The gene for Taq DNA polymerase mutant F667Y is transferred from the gene that produces .DELTA.Taq DNA polymerase to the gene that produces the full length Taq DNA polymerase by standard techniques using PCR and restriction digestion followed by ligation.

Detailed Description Text (189):

For a given series of ddNMP-terminated fragments, for example a series of ddCMP-terminated fragments, the intensities of the first 20 fragments from the bottom of the gel are determined, preferably by Phosphoimager analysis. Alternatively, the autoradiograph can be scanned by an imaging densitometer to determine the relative intensities of the first 20 fragments. These intensities are then analyzed statistically as described in Example 6 in order to determine their variability. For example, the values can be plotted using the Macintosh program Kaleidograph Version 3.0 (Synergy Software). The resulting plots are fit to an exponential decay curve using the Kaleidograph library routine for this function. R.sup.2, the correlation index for the data, is calculated by the Kaleidograph library routine. This is a measure of the variability in band intensities. The values obtained for R.sup.2 using a new DNA polymerase are compared to those obtained using known DNA polymerases, for example .DELTA.28 T7 DNA polymerase (Sequenase Version 2.0, United States Biochemical Corporation) in the presence of magnesium or manganese (see Tabor and Richardson 265 J. Biol. Chem. 8322, 1990), E. coli DNA polymerase I (either Klenow fragment or Klenow fragment with the mutation F762Y) or Taq DNA polymerase (either wild-type or the mutant F667Y). The R.sup.2 values obtained with these known DNA polymerases are used as standards by which to compare a new DNA polymerase for its uniformity.

Detailed Description Text (202):

DNA sequence analysis with a DNA polymerase of this invention is carried out using standard procedures, with the ratio of dNTPs to ddNTPs adjusted to obtain dideoxy-terminated fragments of an average length appropriate for separation by electrophoresis. For the mutant in the large fragment of E. coli DNA polymerase I, "Klenow fragment F762Y", reactions are carried out essentially as with modified T7



DNA polymerase and described in Tabor and Richardson U.S. Pat. No. 4,795,699, Tabor and Richardson 84, Proc. Natl. Acad. Sci. USA 4767, 1987, and SEQUENASE manual, "Step-By-Step Protocols For DNA Sequencing With SEQUENASE" 3rd Edition, United States Biochemical Corporation. Since Klenow fragment F762Y incorporates dideoxynucleotides approximately 5 times more efficiently than modified T7 DNA polymerase, the concentration of ddNTPs in the extension-termination mixtures should be reduced by a factor of five compared with the standard mixtures recommended for modified T7 DNA polymerase (Sequenase manual, supra).

Other Reference Publication (28):

Carroll et al., "A Mutant of DNA Polymerase I (Klenow Fragment) with Reduced Fidelity," Biochemistry 30:804-813 (1991).

=> d 17 ibib ab 415

L7 ANSWER 415 OF 415 TOXCENTER COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1993:130876 TOXCENTER

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DOCUMENT NUMBER: CA11813118290C

TITLE: Analogs of a thermostable **DNA polymerases** with altered 5'.fwdarw.3' exonuclease activity and their manufacture

AUTHOR(S): Gelfand, David H.; Abramson, Richard D.

CORPORATE SOURCE: ASSIGNEE: Cetus Corp.

PATENT INFORMATION: WO 926200 A1 16 Apr 1992

SOURCE: (1992) PCT Int. Appl., 85 pp.

CODEN: PIXXD2.

COUNTRY: UNITED STATES

DOCUMENT TYPE: Patent

FILE SEGMENT: CAPLUS

OTHER SOURCE: CAPLUS 1993:118290

LANGUAGE: English

ENTRY DATE: Entered STN: 20011116

Last Updated on STN: 20020924

AB Thermostable **DNA polymerase mutants** with greater or lesser 5'.fwdarw.3' exonuclease activity are prepd. by expression of the corresponding genes in *Escherichia coli*. The genes for the thermostable **DNA polymerases** are selected from *Thermus sps17*, *Thermus Z05*, *Thermus aquaticus*, ***Thermus thermophilus***, *Thermosipho africanus*, and *Thermotoga maritima* and are mutagenized by substitution or deletion involving site-specific mutation and polymerase chain reaction (PCR). Prepn. of analogs of the **Taq DNA polymerase** of *Thermus aquaticus* and other species was demonstrated and their defined nucleotide and amino acid sequences given.

=> d 16 ibib ab 1-2

L6 ANSWER 1 OF 2 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 1  
ACCESSION NUMBER: 1998143223 EMBASE  
TITLE: How E. Coli DNA polymerase I (Klenow fragment) distinguishes between deoxy- and dideoxynucleotides.  
AUTHOR: Astatke M.; Grindley N.D.F.; Joyce C.M.  
CORPORATE SOURCE: C.M. Joyce, Dept. Molecular Biophysics Biochem, Yale University, New Haven, CT 06520, United States  
SOURCE: Journal of Molecular Biology, (24 Apr 1998) 278/1 (147-165)..  
Refs: 79  
ISSN: 0022-2836 CODEN: JMOBAK  
COUNTRY: United Kingdom  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 004 Microbiology  
029 Clinical Biochemistry  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AB Deoxy- and dideoxynucleotides differ only in whether they have a hydroxyl substituent at C-3' of the ribose moiety, and yet the Klenow fragment DNA polymerase prefers the natural (dNTP) substrate by several thousandfold. We have used this preference in order to investigate how Klenow fragment interacts with the sugar portion of an incoming dNTP. We screened mutant derivatives of Klenow fragment so as to identify those amino acid residues that play important roles in distinguishing between dNTPs and ddNTPs. Substitution of Phe762 with Ala or Tyr caused a dramatic decrease in the discrimination against ddNTPs, while mutations in Tyr766 and Glu710 had a smaller effect, suggesting that these two side-chains play secondary roles in the selection of dNTPs over ddNTPs. In order to understand the interactions in the enzyme-DNA-dNTP ternary complex, pre-steady-state kinetic parameters for the incorporation of dNTPs and ddNTPs were determined for wild-type Klenow fragment and for mutant derivatives that showed changes in dNTP/ddNTP discrimination. From elemental effect measurements we infer that selection against dideoxynucleotides takes place in the transition state for the conformational change that precedes phosphoryl transfer. The crucial role of the Phe762 side-chain appears to be to constrain the dNTP molecule so that the 3'-OH can make an interaction with another group within the ternary complex. When Tyr is substituted at position 762, the same interactions can take place to position the dNTP, but specificity against the ddNTP is lost because the phenolic OH can compensate for the missing 3'-OH of the nucleotide. Substitution of the smaller Ala side-chain results in a loss in specificity because the dNTP is no longer appropriately constrained. Measurement of reaction rates as a function of magnesium ion concentration suggests that the interaction made with the dNTP 3'-OH may involve a metal ion and the Glu710 side-chain, the simplest scenario being that both the 3'-OH and the carboxylate of Glu710 are ligands to the same metal ion.

L6 ANSWER 2 OF 2 USPATFULL  
ACCESSION NUMBER: 97:24884 USPATFULL  
TITLE: DNA polymerase having modified nucleotide binding site for DNA sequencing  
INVENTOR(S): Tabor, Stanley, Cambridge, MA, United States  
PATENT ASSIGNEE(S): Richardson, Charles, Chestnut Hill, MA, United States  
President & Fellow of Harvard College, Cambridge, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5614365		19970325

APPLICATION INFO.: US 1994-337615 19941110 (8)  
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1994-324437, filed  
on 17 Oct 1994, now abandoned  
DOCUMENT TYPE: Utility  
FILE SEGMENT: Granted  
PRIMARY EXAMINER: Jones, W. Gary  
ASSISTANT EXAMINER: Rees, Dianne  
LEGAL REPRESENTATIVE: Lyon & Lyon  
NUMBER OF CLAIMS: 108  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 6 Drawing Figure(s); 6 Drawing Page(s)  
LINE COUNT: 3999

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Modified gene encoding a modified DNA polymerase  
wherein the modified polymerase incorporates dideoxynucleotides at least  
20-fold better compared to the corresponding deoxynucleotides as  
compared with the corresponding naturally-occurring DNA  
polymerase.